

Frequency of Different Psychiatric Disorders in Patients With Functional Bowel Disorders: A Short Report

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Background: Functional gastrointestinal (GI) disorders are very common and many patients with such disorders are not satisfied with treatment outcomes. Psychological aspects of functional disorders need special attention that may play an important role in patient management.

Objectives: In this study, psychology evaluation was performed for a population of patients with functional bowel disorders.

Patients and Methods: One hundred patients with functional bowel disorders including 50 patients with irritable bowel syndrome (IBS) referred to GI clinics were candidates for psychiatry evaluation; of those 60 patients completed the study. Psychiatric disorders were diagnosed using a structured clinical interview based on diagnostic and statistical manual of mental disorders IV (DSM IV).

Results: Of 60 patients with functional bowel disorders (including 39 IBS), 51 (85%) were diagnosed with at least one psychiatry disorder. The most common disorders were dysthymia (25%) and obsessive-compulsive disorder (20%). There was no significant difference between IBS patients and other functional bowel disorders regarding the prevalence of psychiatric disorders.

Conclusions: Psychiatric disorders are very prevalent among patients with functional bowel disorders. Prompt diagnosis and appropriate management of associated psychiatric disorders along with GI targeted treatments may lead to a better outcome in these patients.

Keywords: Functional Gastrointestinal Disorders; Mental Disorders; Irritable Bowel Syndrome

1. Background

Functional gastrointestinal (GI) disorders are difficult to treat disorders with unexplained etiology and significant adverse effects on health of both pediatric and adult patients. Irritable bowel syndrome (IBS) is one of the most common disorders characterized by alteration in bowel habits and abdominal discomfort (1, 2). Many outpatient GI visits are sought by patients with functional (GI) disorders including IBS. Patients with functional GI disorders, especially IBS, have been reported to have impaired quality of life. The more severe disease may correlate with a higher prevalence of life quality impairment (3). Due to the lack of any evidence-based proven diagnostic tools, the Rome II and Rome III criteria have been developed for the diagnosis of IBS (4). These diagnostic criteria are useful for better differentiation of symptoms in patients presenting with abdominal pain and altered bowel habit when organic causes are ruled out. IBS is sub-classified into constipation-predominant, diarrhea-predominant and mixed subtypes according to patient's predominant symptom (5). Patients with similar symptoms not meeting the IBS criteria could be considered as nonspe-

cific functional bowel disorders. Medical management of these patients is not always successful due to unexplained pathophysiologic base of disease. Association of psychological disorders with functional bowel disorders may indicate an etiologic role of psychological insults in development of GI disorder or a common pathophysiology for both disorders.

Physiologically, there is a close relation between central nervous system and GI function. Both systems have common neurotransmitters and the human emotional status has remarkable effects on the GI function. In many cultures, the emotions expressed are represented by the function of the gut. For instance, Iranian people's expression of the hateful attitude is associated with nausea and vomiting. It has been shown that unexplained GI symptoms may be related to psychological problems such as depression, anxiety, panic and post-traumatic stress disorder (PTSD) (6). In some countries, including Iran, people may have difficulties in expression of their emotions and talking about their status. Many psychiatric patients have no word for their emo-

tions (Alexithymia) and may present with non-specific bodily symptoms. In some studies, somatization (conversion of emotional state to physical complaints) has been reported to be the most common presentation of emotional distress in Africans, Indians and Latin Americans (7-11). In a study on 500 patients with depression referred to the outpatient psychiatry clinics of Shiraz university of medical sciences, 7% presented with GI symptoms as the main complaint and about 26% complained pain as headache or in other areas of the body (12). Mussell et al. (13) found that GI symptoms are significantly associated with depression and anxiety in primary care American patients. As a functional disorder, IBS has been associated with several psychological distresses (14). In a study on 50 IBS patients, Irwin et al. (15) found a history of psychology trauma in 44% and diagnosis of PTSD in 36%. Tosic-Golubovic et al. (16) in psychology evaluation of 30 patients with IBS concluded that depression, anxiety and neurotic personality characteristics are more common among IBS patients compared with normal controls. It has been reported that general anxiety disorder (GAD), attention deficit hyperactivity disorder (ADHD), different types of depression and obsessive-compulsive disorder (OCD) may coexist with IBS (17-19).

The pathophysiological bases of these associations are not completely understood. Furthermore, whether psychological problems predispose patients to IBS or chronic discomfort resulting from IBS predisposes people to psychological disorders is not known.

2. Objectives

In this study, the prevalence of several psychiatric disorders was evaluated in patients with functional bowel disorders including IBS.

3. Patients and Methods

In the present study, subjects were selected among adult patients with the complaint of chronic abdominal pain along with altered bowel habit, referred to sub-special gastroenterology clinics related to Shiraz University of Medical Sciences, Shiraz, Iran. Patients with established organic gastrointestinal (GI) disorders such as peptic ulcer disease, GI malignancies, pancreatobiliary disease and inflammatory bowel disease, those with history of any abdominal surgery except C-section and/or with alarming signs such as weight loss, blood per rectum and anemia were excluded from the study. After considering exclusion criteria, 100 patients included in the study. All patients were requested to sign a consent letter before taking part in the survey. Of 100 patients, 50 patients who fulfilled the Rome III criteria were diagnosed as IBS (group 1). The other 50 patients who did not meet the criteria for IBS according to the Rome III considered as non-IBS functional bowel disease (group 2).

Patients were requested to refer to a psychiatry attending for a free mental status evaluation. Psychological evaluation was performed using a structured clinical interview based on diagnostic and statistical manual of mental disorders IV (DSM IV). Mood disorders, anxiety disorders, personality disorders, drug abuse, cognitive disorders, adjustment disorders and other mental problems were clinically evaluated.

3.1. Statistical Analysis

Statistical evaluation was performed using the Statistical Package for the Social Sciences (SPSS, Chicago, IL, USA) 16 for Windows. Chi-square test was used to compare the frequency of each mental disturbance between the two groups of patients. Prior approval for the study was obtained from the ethical committee of Shiraz University of Medical Sciences, Shiraz, Iran.

4. Results

One hundred patients were diagnosed with functional bowel disorder by gastroenterologists including 50 IBS (group 1) and 50 non-IBS (group 2) patients. Of 100 patients, 60 were finally visited and evaluated by the psychiatrist. They included 34 female and 27 male with the average age of 36.8 ± 9.5 (Mean \pm SD).

In the group 1 including 50 patients with diagnosis of IBS based on the Rome III, 39 (24 females and 15 males) with an average age of 36.5 ± 9.4 years old (Mean \pm SD) underwent psychiatric evaluation. Of those who completed the survey, only five (12.8%) patients had normal psychiatric results and the remaining 34 patients (87.2%) had different types of mental problems, including OCD, different degrees of depression, GAD, adjustment disorders, personality disorders and mixed disorders. The detailed data on the prevalence of mental disorders in this group of patients is presented in Table 1. In group 2 with functional bowel disease not completing the Rome III criteria for IBS, only 21 patients (9 females and 12 males) with the average age of 37.4 ± 9.9 years old (Mean \pm SD) completed psychiatric survey. Of these patients, 4 (19%) had normal psychiatric results and the remainder (81%) had psychiatric disorders (Table 1).

There was no significant difference in the prevalence of psychiatric disorders between the two groups ($P = 0.519$). The most frequent psychiatric disorders in group 1 were OCD (25.6%), adjustment disorders (20.5%) and dysthymia (20.5%) in decreasing order and among the non-IBS functional bowel disorder patients, dysthymia (33.3%) and major depressive disorder (MDD) (14.3%) were the most frequent ones.

Totally, of 60 patients with functional bowel disorders, 51 (85%) had at least one psychiatry disorder, mostly dysthymia (25%) and OCD (20%). Patients diagnosed with OCD presented with different subtypes of obsessive behavior and thought. Mood disorders were also different regarding the type and severity, from dysthymia to major depressive disorder (MDD).

Table 1. Frequency of Different Psychiatric Disorders in All Patients With Functional Bowel Disease and Individually in Rome III-Based, Irritable Bowel Syndrome (IBS) Patients (Group 1) and Patients With Non-IBS Functional Bowel Disorder (Group 2) Diagnosis ^a

Co-Morbidity	Group 1	Group 2	All Patients
OCD	10	2	12
Mild depression	1	-	1
GAD	1	1	2
Adjustment disorder	8	2	10
Mixed OCD and depression	2	-	2
Dysthymia	8	7	15
Paranoid personality disorder	1	-	1
Mixed anxiety and depression	1	1	2
MDD	2	3	5
Panic disorder	-	1	1
No psychiatric disorder	5	4	9
Total	39	21	60

^a Abbreviations: GAD: general anxiety disorder; MDD: major mood disorders; and OCD: obsessive compulsive disorder.

5. Discussion

There are reports of high prevalence of psychiatric disorders (40% - 60%) among patients with functional GI disorders including IBS (20). Even children and adolescents with functional abdominal pain syndrome have psychiatric illnesses more frequently compared with normal subjects and patients with organic GI diseases (2). This could be explained by several theories. Both spectrums of disorders may have some pathophysiologic bases in common (19-21). The chronic nature of functional GI disorders may predispose patients to more psychiatric illnesses. The association of a psychiatric illness may adversely affect the course of GI disorder leading to more frequent clinic visits by patients (22).

In the present study, the prevalence of psychiatric disorders was very high among patients with functional bowel disease (85%). This is considerably higher than the expected rate of psychiatric disorders in general population. In a survey by Noorbala et al. (23), the prevalence of mental disorders was 34.2% among residents of Tehran city in 2007. The high rate of mental disorders found in our study may not present an accurate prevalence in these patients due to several factors. 1) High missing rate of selected patients in referring to psychiatrist is the most important interfering factor (the missing rate in IBS group was not high). 2) It is possible that patients who had insight over their psychiatric disorders were more willing to go through psychiatric evaluation. 3) The sampling pool from referral subspecial GI clinics may also be another interfering factor, as many IBS patients with less severe disease may be visited by general practitioners or internists. Therefore, it is possible that a more severe GI disease be more frequently associated with psychiatric diseases. On the other hand, this rate may vary with a larger sample size.

As Levy et al. (20) noted, functional GI disorders could

not be explained by a simple pathophysiologic model. They may result from a delicate interaction of biological, psychological and social factors. It seems that early life experiences interact with some biologic and personality susceptibilities leading to the development of these disorders. A polymorphism in the serotonin reuptake transporter gene associated with fibromyalgia and affective or anxiety disorders has been suggested to be related with diarrhea predominant IBS (24). Finding OCD and depression as the most frequent psychiatric disorders among patients with functional bowel disease in the present study may be a support for this theory as both of these mood disorders are related to dysfunctions of serotonergic system.

Prompt diagnosis and appropriate management of psychiatric co-morbidity are important steps in handling patients with functional GI disorders, especially IBS, which needs a close cooperation between gastroenterologists and psychiatrists. In addition to the proved therapeutic effects of antidepressants on GI symptoms in IBS (25), these patients may benefit from psychotherapy or antidepressants by improving their quality of life (26). Some authors have also suggested hypnotherapy as an effective method to help IBS patients (27).

Trauma-focused psychotherapeutic intervention could also be a proper choice for at least a subgroup of patients with functional GI disorders as there is a possible role for childhood traumatic experiences in development of IBS. However, absence of childhood experiences history related to traumatic events is a limitation for our study that could be addressed in future studies.

The other issue that needs special attention by psychiatrists in the management of patients with functional bowel disorders with comorbid psychiatric abnormalities

is to choose medications with the most beneficial effects on the dominant GI symptoms and avoiding medications that worsen these symptoms due to their adverse effects.

In conclusion, a high frequency of psychiatric disorders among patients with functional bowel disorders reported in this survey and similar studies emphasizes the importance of team management of these patients, at least in referring sub-special centers. The team should consist of gastroenterologists, psychiatrists, psychologists and/or social workers working together on any individual patient for a better therapeutic result.

Authors' Contributions

Bahareh Fakhraei and Mojtaba Farjam designed the work. Maryam Moini, Mohammad Reza Fattahi, Mohammad Hasan Kazemi and Mahvash Alizade Naini visited patients in gastroenterology clinics and referred them to psychiatrist. Ali Firouzabadi did psychiatric evaluation. Maryam Moini and Mojtaba Farjam wrote the manuscript. Ali Firouzabadi revised the manuscript.

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